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209060US0



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF:

Isabelle AFRIAT

EXAMINER: BERMAN

SERIAL NO.: 09/884,949

FILED: JUNE 21, 2001

GROUP ART UNIT: 1619

FOR: COMPOSITION IN THE FORM OF  
A WATER-IN-OIL EMULSION WITH  
A VARIABLE SHEAR RATE AND  
METHODS OF USING THE SAME

DECLARATION UNDER 37 C.F.R. 1.132

ASSISTANT COMMISSIONER FOR PATENTS  
WASHINGTON, D.C. 20231

SIR:

I, Veronique Chevalier hereby declare:

1. I am employed by L'ORÉAL as an engineer and have experience in the field of emulsions, particularly water-in-oil (W/O) emulsions, and their use in cosmetic and/or dermatological compositions.
2. I understand the English language.
3. I am familiar with the disclosure in U.S. patent 5,851,539 ("Mellul").
4. The following observations and experiments were carried out by me or under my direct supervision and control.
5. The six W/O emulsions identified below were prepared. Example 1 refers to example 1 of the above-identified application. CM 3/1 and CM 3/2 also represent emulsions of the present invention. Comparative emulsion CM 3/5 corresponds to Mellul's example 24 and contains only 70% aqueous phase. Emulsions CM 3/3 and CM 3/4 correspond to Mellul's example 24 and contain hydrofluorocarbon.

Composition	Example 1	CM 3/1	CM 3/2	CM 3/5	CM 3/3	CM 3/4
KF-6015	1.75%	1.81%	1.21%	2.69%	1.81%	1.21%
Pentacyclo- methicone	17.75%	18.36%	12.24%	27.31%	-----	-----
Fluorohydro- carbon	-----	-----	-----	-----	18.36%	12.24%
NaCl	2.5%	2.59%	1.72%	2.17%	2.59%	1.72%
Glycerin	7%	7.24%	4.83%	6.09%	7.24%	4.83%
Water	71%	70%	80%	61.74%	70%	70%
Macroscopic Aspect	White Cream	White Cream	White Cream	White Cream	Precipitation when aqueous phase added	Precipitation when aqueous phase added

5. Each of the W/O emulsions corresponding to the present invention, Example 1, CM 3/1, and CM 3/2, as well as comparative example CM 3/5 were subjected to several different shear stresses to examine the rheological properties of the emulsions under these conditions. Typically, when compositions are applied to skin, the user applies a shear stress of about 100 Pa to about 1000 Pa. Thus, the applied shear stress represents forces to which W/O emulsions are subject when applying the emulsions to skin. Attached to this declaration are four graphs depicting the results observed when each of these W/O emulsions was subjected to the different shear stresses. Measurements were made using a Rheometer RS 150 Haake at 25 (degrees) C.

6. The results in these graphs indicate that the three W/O emulsions containing 80% or more electrolyte-containing aqueous phase readily Abreak $\equiv$  (that is, suddenly become fluid) under shear stresses applied to the emulsions. Thus, these results indicate that W/O emulsions containing 80% or more aqueous phase readily Abreak $\equiv$  when applied to skin. When a W/O emulsion Abreaks, $\equiv$  more of the aqueous phase becomes available for contact with the skin to which the emulsion is applied, making the W/O emulsion feel less heavy and oily to the skin. Having more aqueous phase available for contact with the skin gives the W/O emulsion a fresher feeling upon application to the skin.

7. In contrast, the results in these graphs indicate that W/O emulsions having 70% or less of the same aqueous phase (that is, emulsion CM 3/5) do not readily Abreak.≡ Thus, W/O emulsions having 70% or less aqueous phase do not have as much aqueous phase available for contact with the skin and, thus, do not have the same feeling of freshness upon application which W/O emulsions having 80% or more aqueous phase have.

8. This difference in Abreak≡ properties and, thus, ability to afford freshness upon application to skin between W/O emulsions containing 80% or more aqueous phase and those containing 70% or less aqueous phase is significant in the cosmetic field where freshness upon application to skin is desirable in products. Moreover, this difference between such emulsions was unexpected and surprising.

9. To further demonstrate Abreak≡ attached to this declaration are two photographs of corresponding to emulsion CM 3/2 depicting this property. The first photograph was taken after 20 seconds at a shear stress of 350 Pa. The water globules on this photograph are very fine and the emulsion is homogeneous. The second photograph was taken after 300 seconds at a shear stress of 350 Pa. In contrast to the first photograph, the water globules on this photograph are larger and the emulsion is less homogeneous. By the time the second photograph was taken, the depicted emulsion had Abroken≡ making more aqueous phase available for contact with the skin.

10. Emulsions CM 3/3 and CM 3/4 contain fluorohydrocarbon (like Mellul's example 24). The difference between these emulsions and emulsions of the present invention was noticeable during their preparation: there was a precipitation when the aqueous phase of CM 3/3 and CM 3/4 was combined with the oil phase, whereas no such precipitation occurred during preparation of the emulsions of the present invention. Attached hereto are two photographs demonstrating the different products obtained from these two different types of emulsion. The emulsion containing fluorohydrocarbon was a crude paste, unacceptable for cosmetic purposes, whereas the emulsion of the present invention was a cream product suitable for use in the cosmetic industry. This difference between such emulsions, as well as the difference experienced during preparation of these emulsions, was unexpected and surprising.

11. The undersigned petitioner declares further that all statements made herein of her own knowledge are true and that all statements made on information and belief are believe to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of this application or any patent issuing thereon.

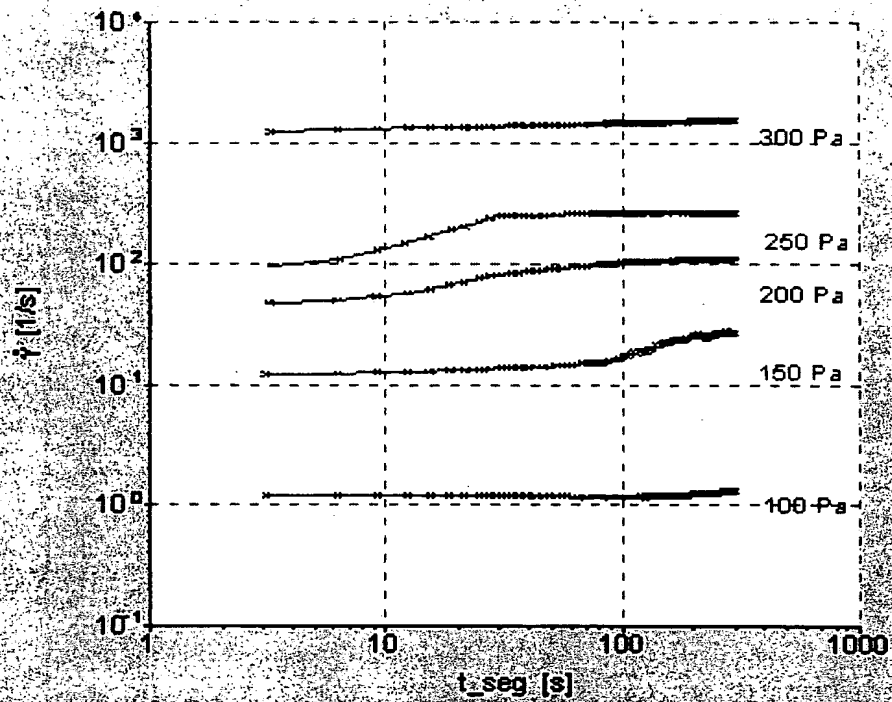
12. Further deponent sayeth not.

Véronique Chevaller  
Name

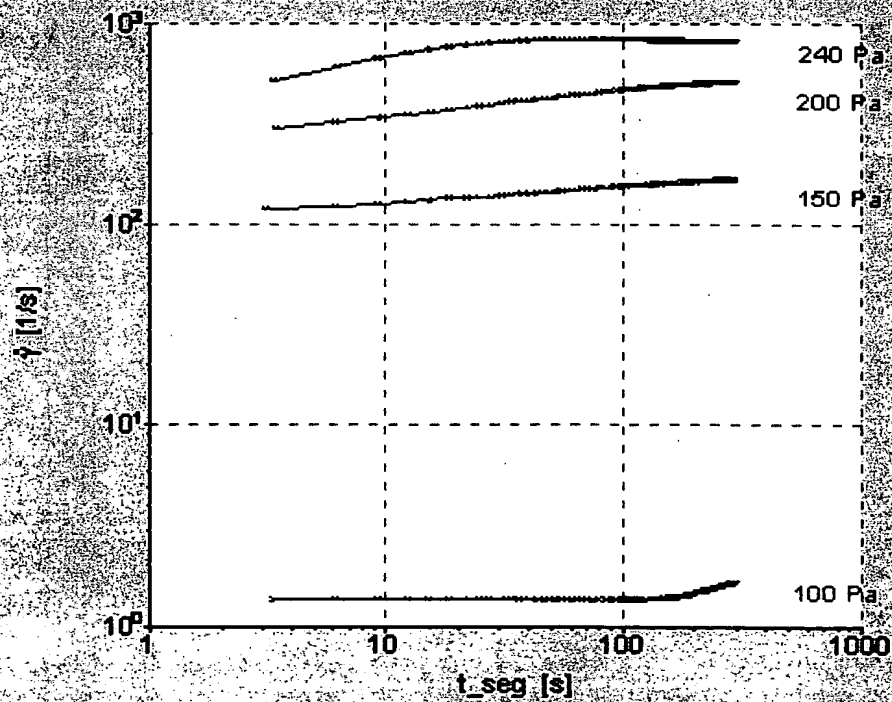
V. Chev  
Signature

26<sup>th</sup> June 2002  
Date

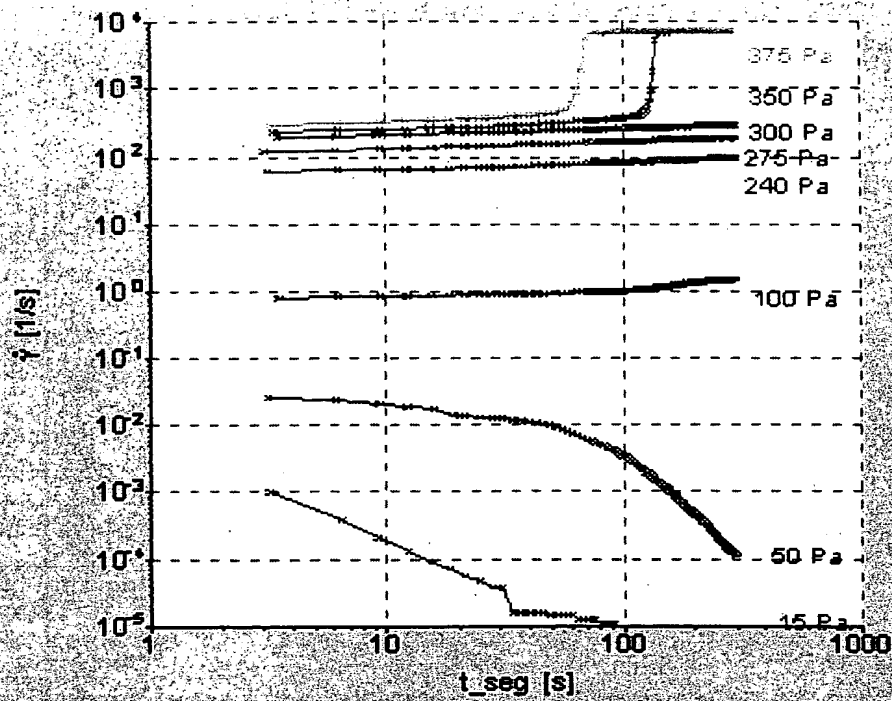
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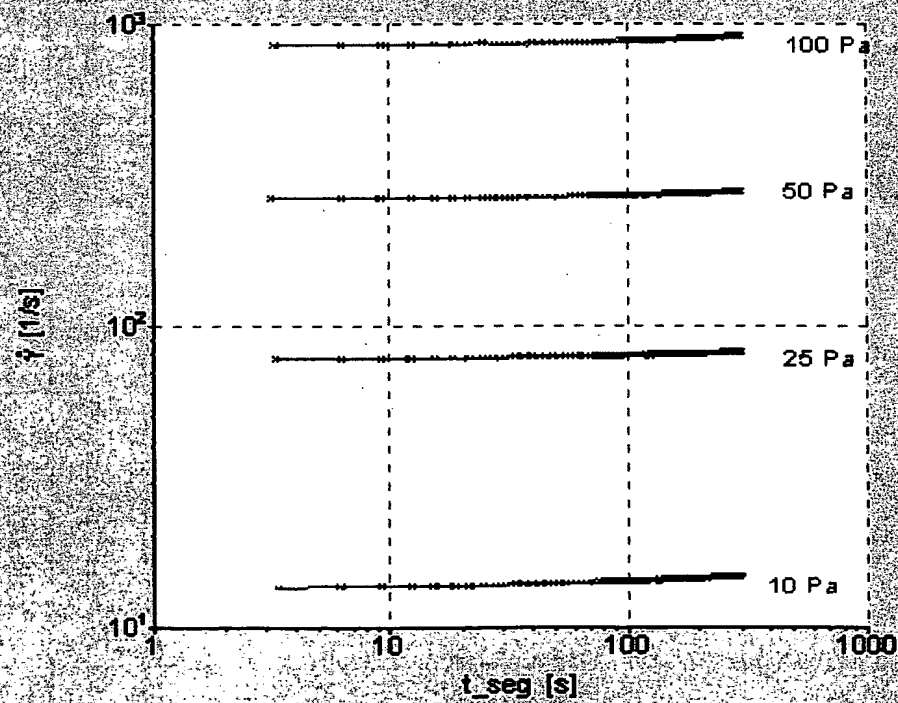
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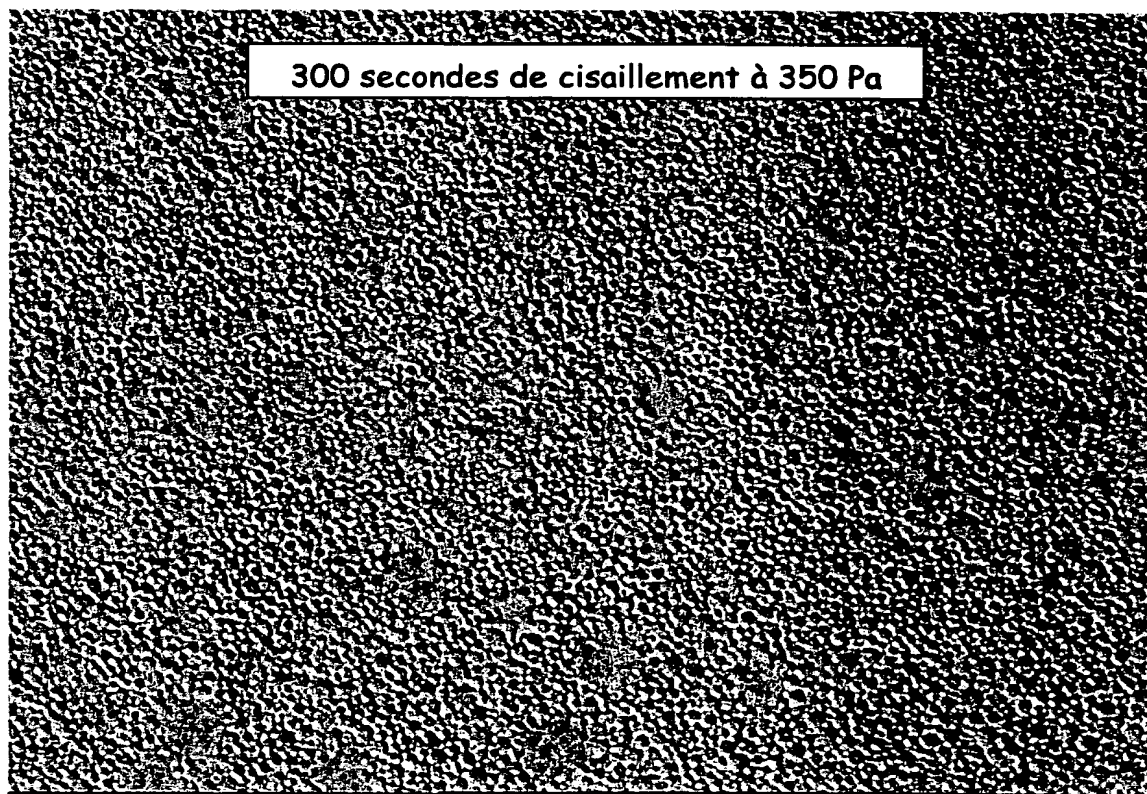
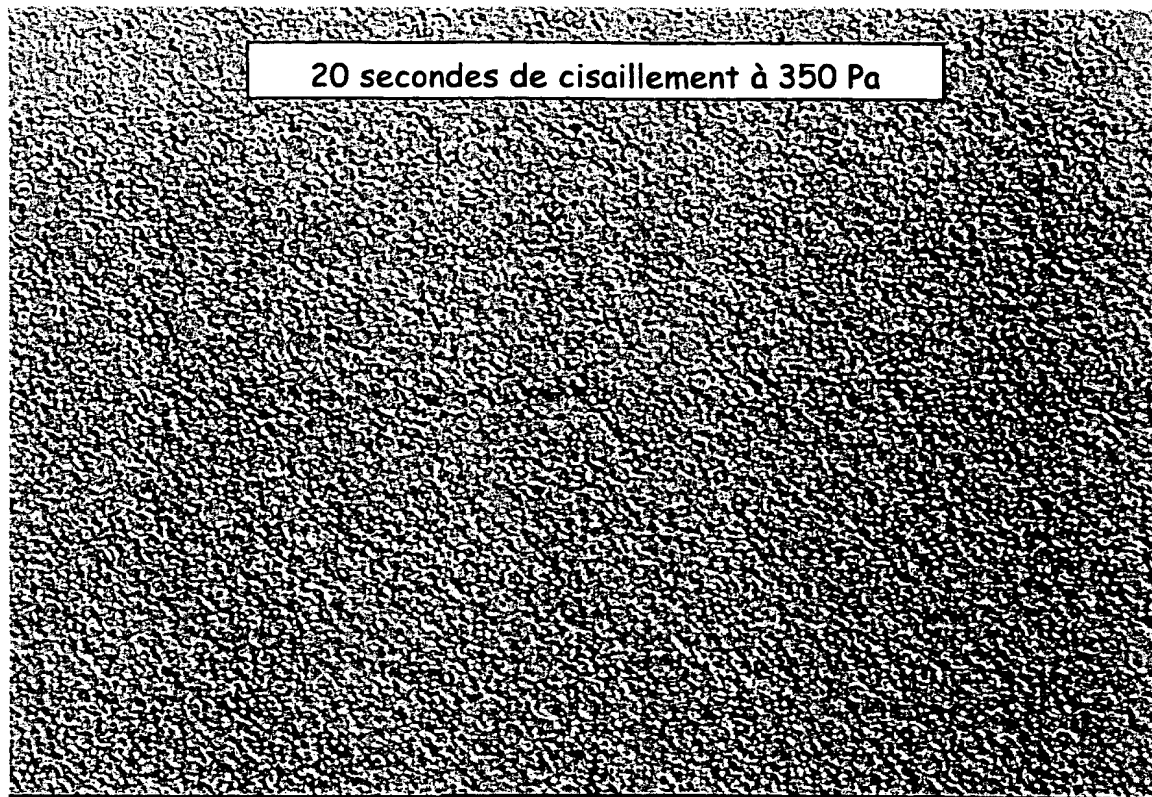
CM3/2, fab. du 27/05/02



CM3/5







209060US0



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF:

Isabelle AFRIAT

SERIAL NO.: 09/884,949

FILED: JUNE 21, 2001

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EXAMINER: BERMAN

GROUP ART UNIT: 1619

FOR: COMPOSITION IN THE FORM OF  
A WATER-IN-OIL EMULSION WITH  
A VARIABLE SHEAR RATE AND  
METHODS OF USING THE SAME

DECLARATION UNDER 37 C.F.R. 1.132

ASSISTANT COMMISSIONER FOR PATENTS  
WASHINGTON, D.C. 20231

SIR:

I, Véronique Chevalier, hereby declare:

1. I am employed by L=ORÉAL as an engineer and have experience in the field of emulsions, particularly water-in-oil (W/O) emulsions, and their use in cosmetic and/or dermatological compositions.
2. I understand the English language.
3. I have been asked to explain the information set forth in the graphs accompanying the declaration submitted July 24, 2002, in connection with the above-referenced patent application. Attached to this declaration as Tab A is a copy of these graphs.

4. The graphs depict shear rates (vertical axis) as a function of time (horizontal axis) for various applied shear stresses (for example, 50 Pa, 100 Pa, etc.). The graph for the comparative example CM 3/5 (bottom graph) contains flat lines at each of the applied shear stresses. These flat lines indicate that evolution of shear rates does not occur upon application of the shear stresses, meaning that the comparative composition does not readily "break" or become fluid. In contrast, the lines for composition CM 3/2 (representative of the present invention) are not flat, indicating that compositions of the present invention break much more readily than the comparative example.

5. The results in these graphs indicate that the three W/O emulsions containing 80% or more aqueous phase readily Abreak $\equiv$  (that is, suddenly become fluid) under shear stresses applied to the emulsions. Thus, these results indicate that W/O emulsions containing 80% or more aqueous phase readily Abreak $\equiv$  when applied to skin. When a W/O emulsion Abreaks, $\equiv$  more of the aqueous phase becomes available for contact with the skin to which the emulsion is applied, making the W/O emulsion feel less heavy and oily to the skin. Having more aqueous phase available for contact with the skin gives the W/O emulsion a fresher feeling upon application to the skin.

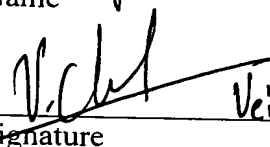
6. In contrast, the results in these graphs indicate that W/O emulsions having 70% or less of the same aqueous phase (that is, emulsion CM 3/5) do not readily Abreak. $\equiv$  Thus, W/O emulsions having 70% or less aqueous phase do not have as much aqueous phase available for contact with the skin and, thus, do not have the same feeling of freshness upon application which W/O emulsions having 80% or more aqueous phase have.

7. This difference in Abreak $\cong$  properties and, thus, ability to afford freshness upon application to skin between W/O emulsions containing 80% or more aqueous phase and those containing 70% or less aqueous phase is significant in the cosmetic field where freshness upon application to skin is desirable in products. Moreover, this difference between such emulsions was unexpected and surprising.

8. The undersigned petitioner declares further that all statements made herein of her own knowledge are true and that all statements made on information and belief are believe to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of this application or any patent issuing thereon.

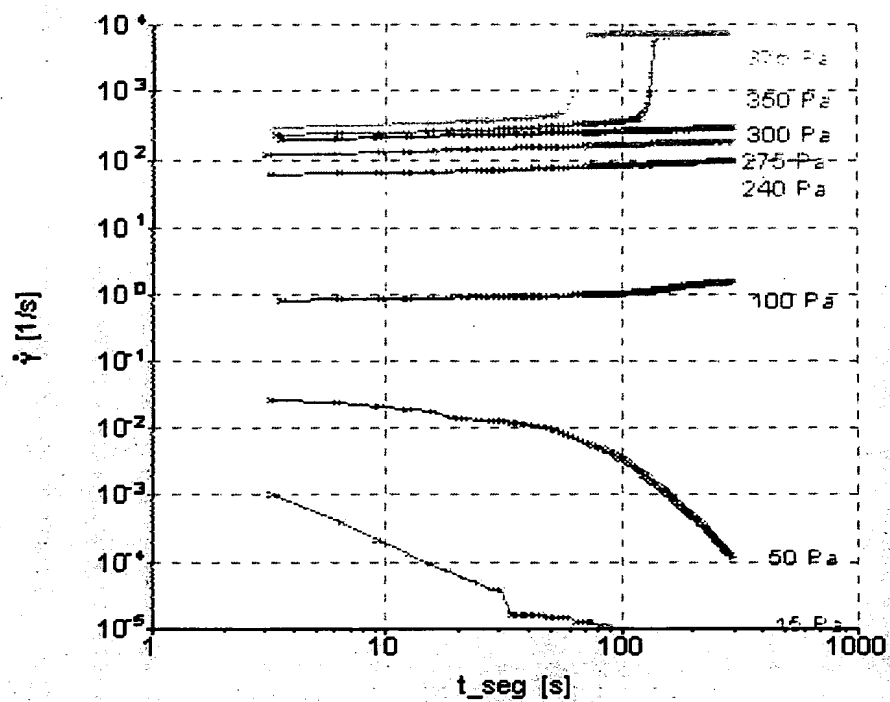
9. Further deponent sayeth not.

Veronique CHEVALIER  
Name

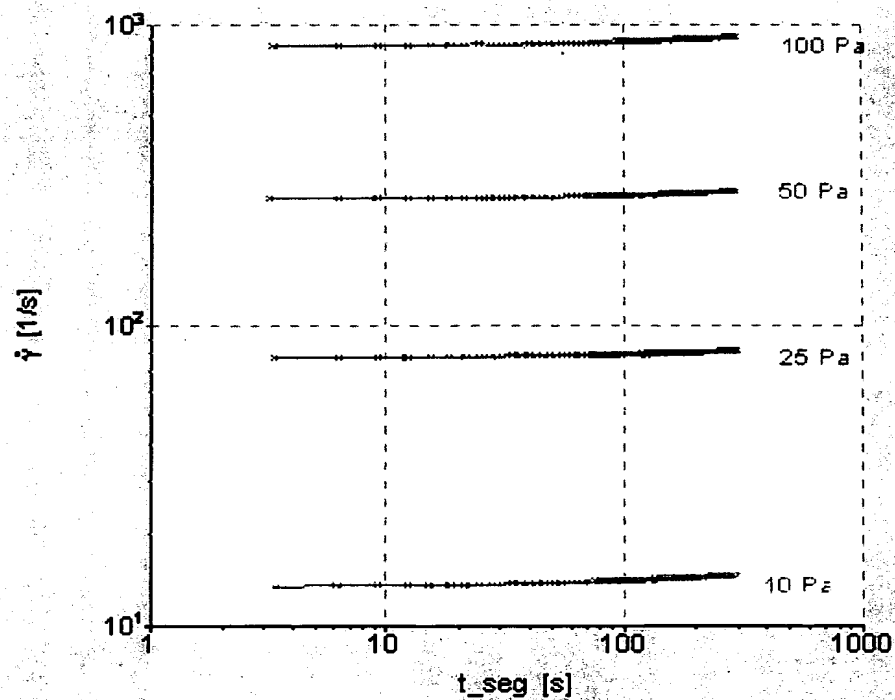
  
Signature

7<sup>th</sup> February 2003  
Date

CM3/2, fab. du 27/05/02



CM3/5





209060US0

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF:

Isabelle AFRIAT

SERIAL NO.: 09/884,949

FILED: JUNE 21, 2001

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DECLARATION UNDER 37 C.F.R. 1.132

ASSISTANT COMMISSIONER FOR PATENTS  
WASHINGTON, D.C. 20231

SIR:

I, Véronique Chevalier, hereby declare:

1. I am employed by L=ORÉAL as an engineer and have experience in the field of emulsions, particularly water-in-oil (W/O) emulsions, and their use in cosmetic and/or dermatological compositions.
2. I understand the English language.
3. The following observations and experiments were carried out by me or under my direct supervision and control.

4. The two W/O emulsions identified below were prepared. Both of these emulsions represent emulsions of the present invention.

Composition	658463-2	658463-3
Dimethicone copolyol (KF-6015)	1.84%	1.21%
Pentacyclomethicone	8.66%	8.24%
NaCl	2.5%	1.72%
Glycerin	7%	4.83%
Water	80%	84%
Total	100%	100%
Macroscopic aspect	Mate white cream	Mate white cream

5. Both of these emulsions were subjected to several different shear stresses to examine the rheological properties of the emulsions under these conditions. Typically, when compositions are applied to skin, the user applies a shear stress of about 100 Pa to about 1000 Pa. Thus, the applied shear stress represents forces to which W/O emulsions are subject when applying the emulsions to skin. Attached to this declaration are two graphs depicting the results observed when each of these W/O emulsions was subjected to the different shear stresses. The graphs depict shear rates (vertical axis) as a function of time (horizontal axis) for various applied shear stresses (for example, 50 Pa, 100 Pa, etc.). Measurements were made using a Rheometer RS 150 Haake at 25 (degrees) C.

6. The graph for these W/O emulsions reflect lines which are not flat, thereby indicating that both W/O emulsions, containing 80% water/89.5% aqueous phase

(658463-2) and 84% water/90.55% aqueous phase (658463-3) readily Abreak $\equiv$  (that is, suddenly become fluid) under shear stresses applied to the emulsions.

7. Similarly, in the declaration submitted on July 24, 2002, in connection with this application, the experimental results indicate that W/O emulsions containing slightly more than 80% aqueous phase (example 1 and CM 3/1) and 86.55% aqueous phase (CM 3/2) readily "break" when applied to skin.

8. Thus, the data set forth in this declaration and the July 24, 2002 declaration indicate that W/O emulsions of the present invention having 80% aqueous phase, 86.55% aqueous phase, 89.5% aqueous phase and 90.55% aqueous phase readily Abreak $\equiv$  when applied to skin. When a W/O emulsion Abreaks, $\equiv$  more of the aqueous phase becomes available for contact with the skin to which the emulsion is applied, making the W/O emulsion feel less heavy and oily to the skin. Having more aqueous phase available for contact with the skin gives the W/O emulsion a fresher feeling upon application to the skin.

9. In contrast, the July 24, 2002 declaration indicates that W/O emulsions having 70% or less of the same aqueous phase (that is, emulsion CM 3/5) do not readily Abreak $\equiv$ . Thus, W/O emulsions having 70% or less aqueous phase do not have as much aqueous phase available for contact with the skin and, thus, do not have the same feeling of freshness upon application which W/O emulsions having 80% or more aqueous phase have.

10. This difference in Abreak $\equiv$  properties and, thus, ability to afford freshness upon application to skin between W/O emulsions containing 80% or more aqueous phase and those containing 70% or less aqueous phase is significant in the cosmetic field where



freshness upon application to skin is desirable in products. Moreover, this difference between such emulsions was unexpected and surprising.

11. Finally, the fact that the W/O emulsions of the present invention did not readily break at all shear rates tested is not relevant. The significant point from the experimental data discussed herein is that the W/O emulsions of the present invention readily break when applied to skin at shear stress forces to which W/O emulsions are typically subject upon such application, whereas the comparative examples do not.

12. The undersigned petitioner declares further that all statements made herein of her own knowledge are true and that all statements made on information and belief are believe to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of this application or any patent issuing thereon.

13. Further deponent sayeth not.

Chevalier, Veronique  
Name

V. Chl  
Signature

11<sup>th</sup> August 03  
Date

209060US0



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF:

Isabelle AFRIAT

SERIAL NO.: 09/884,949

FILED: JUNE 21, 2001

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EXAMINER: WELLS

GROUP ART UNIT: 1617

FOR: COMPOSITION IN THE FORM OF  
A WATER-IN-OIL EMULSION WITH  
A VARIABLE SHEAR RATE AND  
METHODS OF USING THE SAME

DECLARATION UNDER 37 C.F.R. 1.132

ASSISTANT COMMISSIONER FOR PATENTS  
WASHINGTON, D.C. 20231

SIR:

I, Veronique CHEVALIER, hereby declare:

1. I am employed by L=ORÉAL as an engineer and have experience in the field of emulsions, particularly water-in-oil (W/O) emulsions, and their use in cosmetic and/or dermatological compositions.

2. I have previously submitted two declarations in support of the above-referenced application in which I discuss and explain certain observations and experiments relating to the claimed invention in this application.

3. I have read the Office Action dated October 23, 2003, in which certain questions or concerns were raised relating to my previous declarations. Set forth below are answers to these questions or concerns.

4. Regarding the Office Action's assertion that no data exists showing that formulation nos. 658462-2 and 658463-3 readily break, it is my understanding that graphs depicting this data were inadvertently not attached to my August 18, 2003, declaration. Attached hereto at Tab A is a copy of these graphs, the top graph corresponding to 658462-2 and the bottom graph corresponding to 658463-3. These graphs indicate that these two formulations readily break.

5. Regarding the Office Action's assertion that no data exists showing that Example 1 of the present application or CM 3/1 readily break, Example 1 is AReference P5≅ discussed in my July 24, 2002, declaration. Thus, data has been provided for this invention composition. Regarding CM 3/1, the portion of the graph reflecting that this composition breaks is at 240 Pa. However, because CM 3/1 contains only 79.83% aqueous phase and, thus, is on the outer limits of the claimed invention, the breaking of this composition is more difficult to determine than for compositions containing more aqueous phase.

6. Regarding the Office Action's assertion that the reproduction of Mellul=s compositions as CM 3/3, CM 3/4 and CM 3/5 was inappropriate because Mellul was not followed exactly, Mellul=s col. 7, line 57, and col. 8, line 6 indicate that glycerin and sodium chloride can be added to Mellul=s compositions, so their addition to CM/3, CM/4 and CM/5 is appropriate. Moreover, their presence or absence would not be expected to materially alter the properties of the resulting composition. Furthermore, KF 6015 was

used instead of KF 6017 because Mellul indicates that these dimethicone copolyols are interchangeable and because KF 6015 was readily available. (See, Mellul at col. 8, line 47). Finally, hydrocarbon surfactant found in Mellul's example 24 was not included in CM/3, CM/4 and CM/5 because Mellul's Tables I and II (col. 13) indicate that the presence of hydrogen surfactant results in a very unstable emulsion, whereas silicone surfactant results in a stable emulsion. Because we were attempting to create the most stable emulsion we could in accordance with Mellul's teachings, we did not utilize Mellul's hydrocarbon surfactant.

7. Regarding the Office Action's assertion that given the data points provided it is not possible to determine if CM 3/5 has a break property at shear stress greater than 100 Pa, it is impossible to apply a greater stress to CM 3/5 because this composition is too fluid. In contrast, the cream-like compositions of the present invention are thicker, so more shear stress can be applied to them.

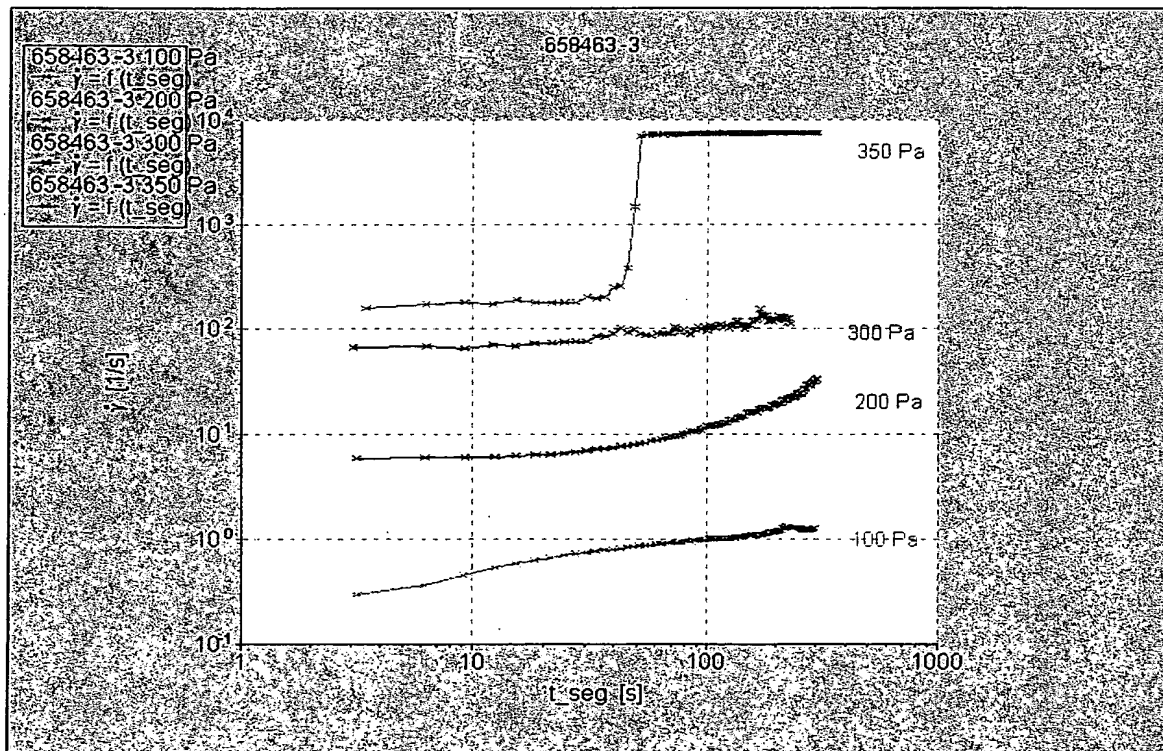
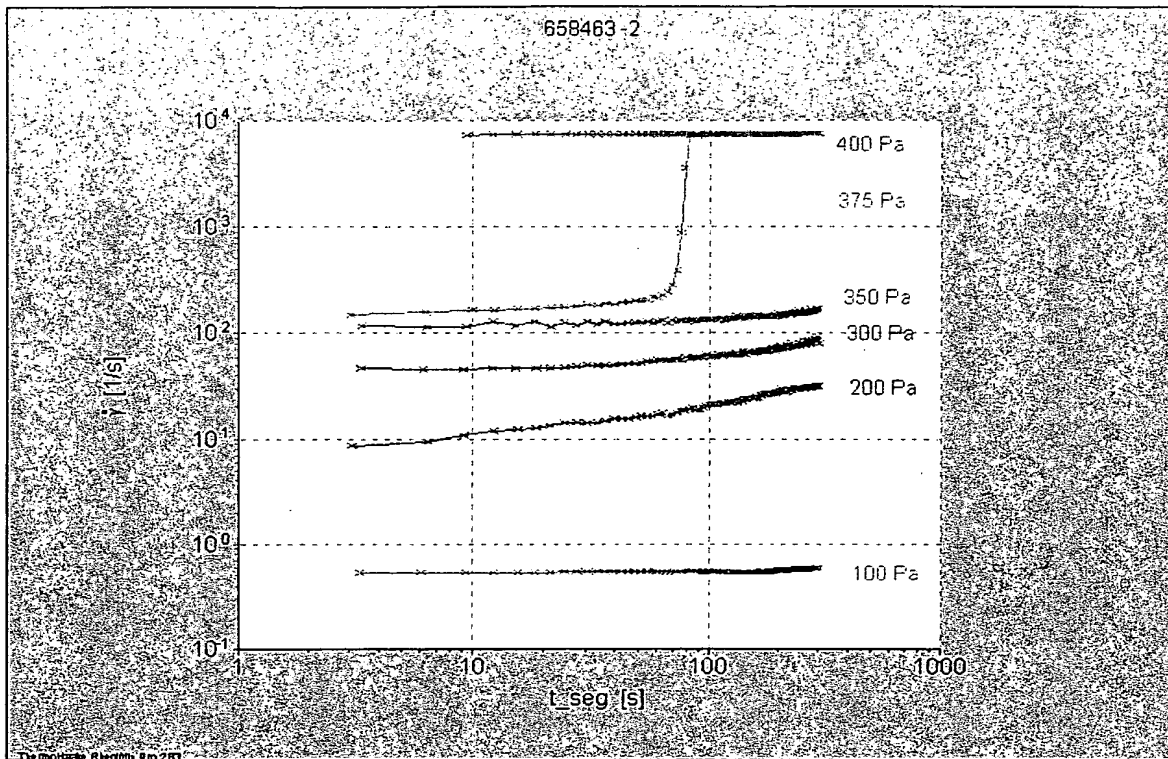
8. The undersigned petitioner declares further that all statements made herein of her own knowledge are true and that all statements made on information and belief are believe to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of this application or any patent issuing thereon.

9. Further deponent sayeth not.

Veronique Chevalier  
Name

Veronique Chevalier V.Chel  
Signature

16<sup>th</sup> January 2004  
Date





209060US0

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Isabelle AFRIAT

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SIR:

I, Veronique CHEVALIER, hereby declare:

1. I am employed by L'ORÉAL as an engineer and have experience in the field of emulsions, particularly water-in-oil (W/O) emulsions, and their use in cosmetic and/or dermatological compositions.
2. I have previously submitted three declarations in support of the above-referenced application in which I discuss and explain certain observations and experiments relating to the claimed invention in this application.
3. Attached hereto at Tabs A and B are two graphs for composition P5 (example 1 of the present application). The graph at Tab A is the same as the graph for P5 submitted with

my July 24, 2002, declaration except that this graph has a larger gradient scale. The graph at Tab B is plotted according to a linear scale rather than a gradient scale.

4. The results in these graphs indicate that W/O emulsions containing 80% or more aqueous phase readily Abreak $\equiv$  (that is, suddenly become fluid) under shear stresses applied to the emulsions. Thus, these results indicate that W/O emulsions containing 80% or more aqueous phase readily Abreak $\equiv$  when applied to skin. When a W/O emulsion Abreaks, $\equiv$  more of the aqueous phase becomes available for contact with the skin to which the emulsion is applied, making the W/O emulsion feel less heavy and oily to the skin. Having more aqueous phase available for contact with the skin gives the W/O emulsion a fresher feeling upon application to the skin.

5. For sake of comparison, attached hereto at Tabs C and D are two graphs for comparative example CM 3/5. The graph at Tab C, like the graph at Tab A, has a larger gradient scale. The graph at Tab D, like the graph at Tab B, has a linear scale rather than a gradient scale.

6. The results in these graphs indicate that W/O emulsions having 70% or less of the same aqueous phase (that is, emulsion CM 3/5) do not readily Abreak $\equiv$ . Thus, W/O emulsions having 70% or less aqueous phase do not have as much aqueous phase available for contact with the skin and, thus, do not have the same feeling of freshness upon application which W/O emulsions having 80% or more aqueous phase have.



7. This difference in Abreak properties and, thus, ability to afford freshness upon application to skin between W/O emulsions containing 80% or more aqueous phase and those containing 70% or less aqueous phase is significant in the cosmetic field where freshness upon application to skin is desirable in products. Moreover, this difference between such emulsions was unexpected and surprising.

8. The undersigned petitioner declares further that all statements made herein of her own knowledge are true and that all statements made on information and belief are believe to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of this application or any patent issuing thereon.

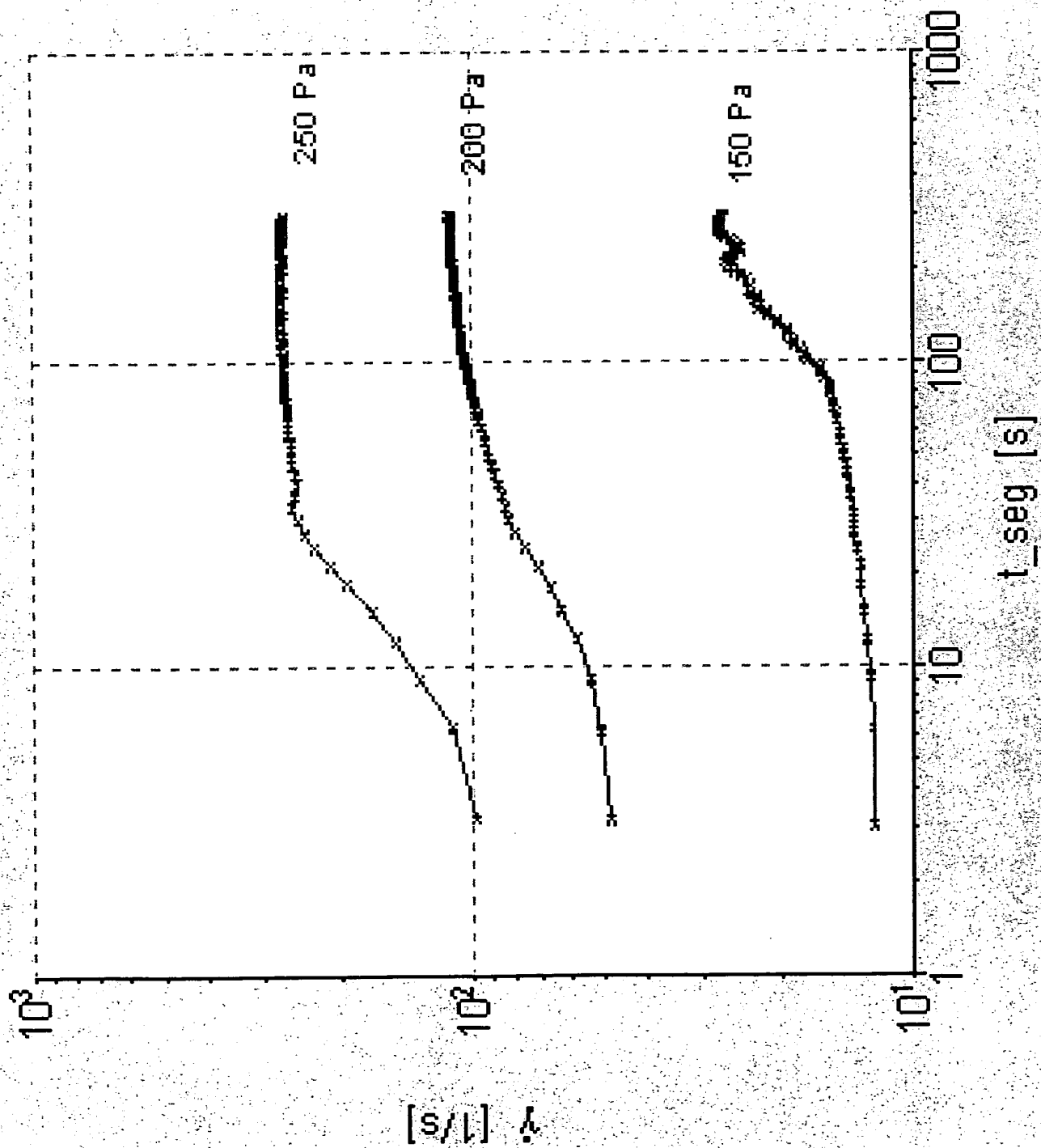
9. Further deponent sayeth not.

CHEVALIER Véronique  
Name

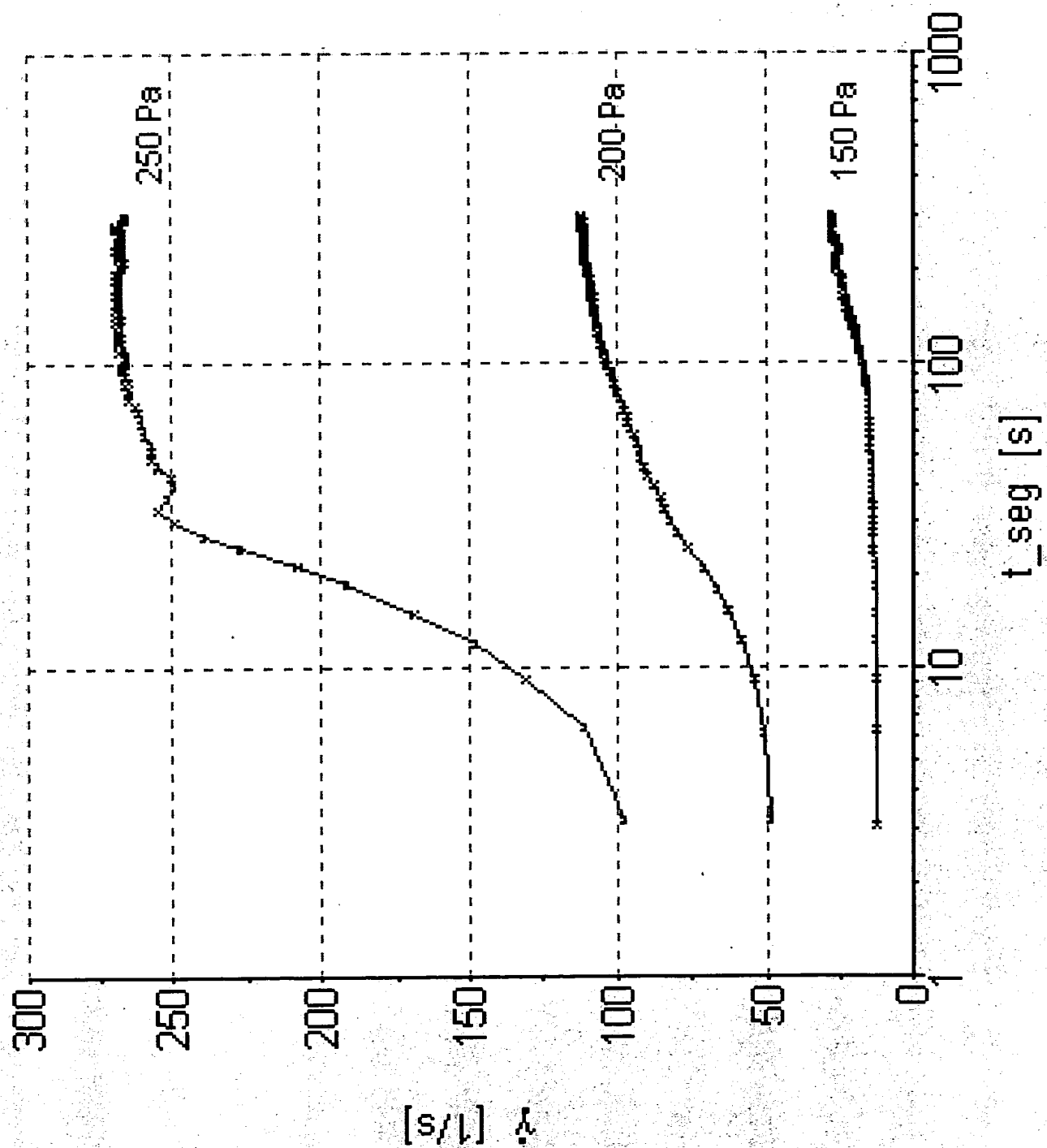
Véronique Chevalier V.Chl  
Signature

1<sup>st</sup> June 2004  
Date

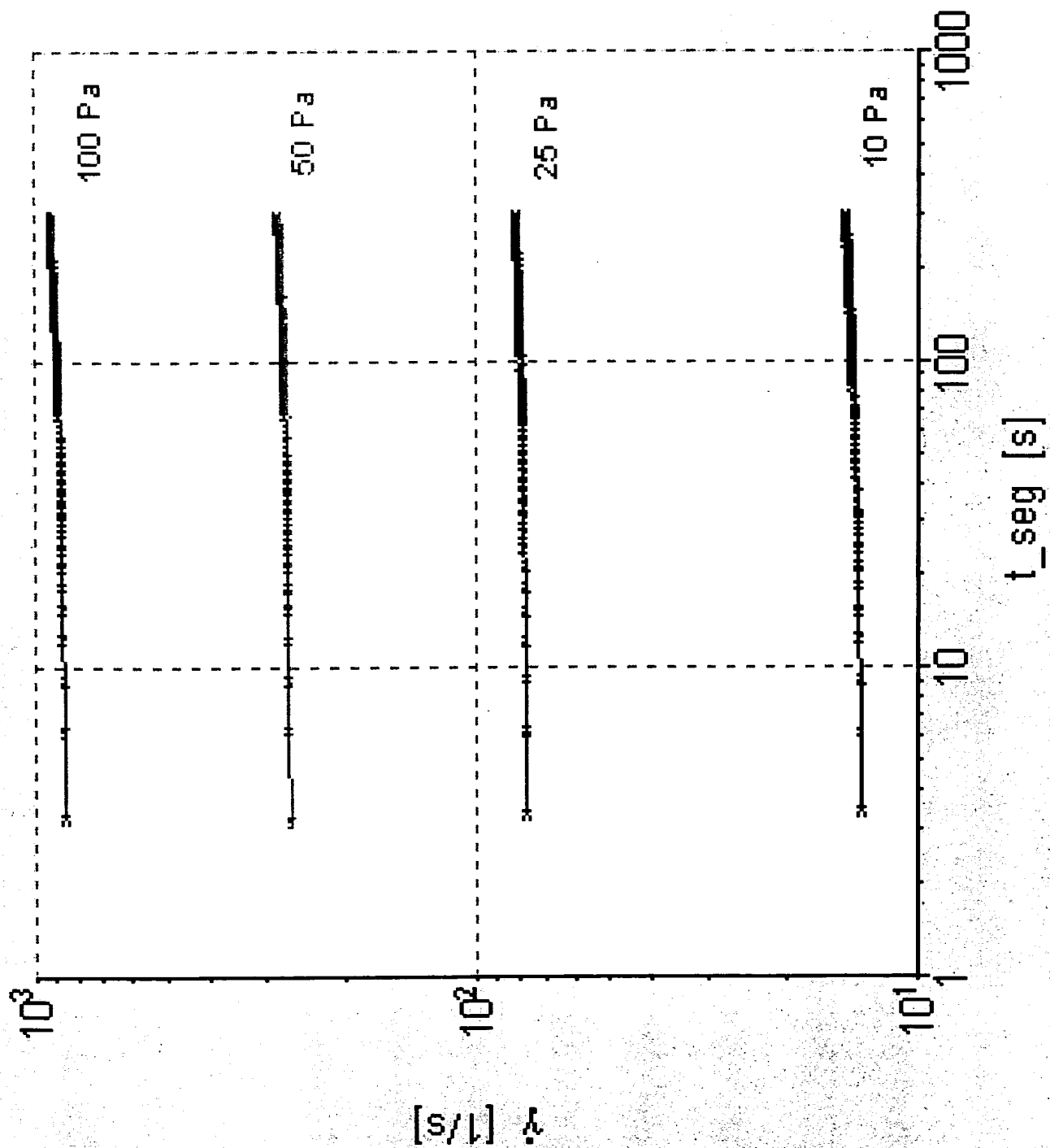
référence P5



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CM 3/5



CM 3/5

